Southampton Archaeology Unit

Report 1086

Archaeological building recording of the electricity transformer house (building 7) of the former Ocean Terminal, Ocean Road, Eastern Docks, Southampton SOU 1586

MP Smith BA MIfA

2012

Client: Associated British Ports

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By MP Smith BA MIFA

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Site code	SOU 1586
Ordnance Survey grid reference	442456 110310
SCC archive reference	2012.15
Planning reference	12/00046/DPA

1. Summary

Southampton City Council Archaeology Unit carried out an archaeological building record at the transformer house (building 7) of the former Ocean Terminal, Ocean Road, Eastern Docks, Southampton on behalf of Associated British Ports. The building was constructed in 1950 as part of the Ocean Terminal complex that served the ocean going liners. The main Terminal building was demolished in 1983. The transformer house was built in a streamlined Art Deco style. Three of the original transformer units survived at ground floor level. A secondary use of the building was to provide public access to the Terminal by way of a pair of stairs that lead to a first floor bridge across the road and railway to the first floor of the Terminal building. The stairwells were provided with two toilets at first floor level.

2. Introduction

The Archaeology Unit of Southampton City Council carried out a programme of archaeological building recording at the transformer house (building 7) of the former Ocean Terminal, Ocean Road, Eastern Docks, Southampton (figure 1) on behalf of Associated British Ports (ABP). The survey was carried out in response to a planning condition 02 imposed on planning application 12/00046/DPA. The survey was made on 12th March 2012 by MP Smith BA MIfA. The redevelopment involved demolition of the existing building in advance of a road re-alignment.

3. Acknowledgements

Thanks are due to ABP for commissioning the record, for providing the architect's drawings, and for permission to use their copyright images. Especial thanks are due to ABP's Project Engineer, Emeka Ahuchogu, for his assistance in facilitating the work.

4. Building recording methodology

The archaeological survey was made to level 2 as defined by English Heritage (English Heritage 2006).

The photographic survey was carried out by the Archaeology Unit using Minolta 35mm SLR cameras. The photographs were taken using Ilford FP4 monochrome film and Kodak colour slide film. Digital photographs were also taken for inclusion in this report. Where practical, metric scale bars were included in all photographs. These were in 0.5m divisions unless otherwise stated.

ABP provided copies of the architect's original drawings of the building from 1950. These were checked on site. The drawings were made to Imperial scales. The present record will therefore also use Imperial measures with metric equivalents.

Arbitrary room numbers were assigned to the rooms for ease of reference during the survey.

All site records were made using the Southampton City Council archaeological recording system. The archive, including a full set of drawings, will be deposited with Southampton City Council upon completion of the project.

5. Site location

The site lies within the Eastern Docks of the Port of Southampton, on the east side of Ocean Road (OS grid reference 442456 110310).

Figure 1. Site location plans.

6. Historical background

The modern Port of Southampton owes its development to an Act of Parliament of 1803 (Act 43 George III. cap.21) which abolished many of the medieval dues and allowed for *making convenient docks* (Davies 1883, 280 - 284). However, the Dock Company was not incorporated until 1836, and construction of new docks was further delayed until 1838. Work continued until 1851 on forming the core of the Eastern Docks. This included the completion of the first dry dock, Number 1 dry dock, in 1846. In 1892 the Dock Company was bought by the London and South Western Railway Company (LSWR) (Temple Patterson 1975, 69). The new owners embarked on a programme of expansion of the docks. This included the construction in 1896 of the Prince of Wales (Number 5) dry dock, which was the largest dry dock in the world at the time of its opening.

Ownership of the port passed from LSWR to the Southern Railway with the railway amalgamation on 1st January 1923 (Moody 1992, 13 - 15). It was nationalised along with the railways in 1948. It then came under the control of the British Transport Commission. The link with the railway was removed in 1962 when control of the port was vested in the British Transport Docks Board. Ownership again passed into the private sector with ABP in 1981.

After the Second World War a need developed to service the passenger liners sailing from Southampton in order to replace facilities destroyed during the War. Plans were made in 1947 for a new terminal building to be constructed on the site of two war damaged dock sheds at berths 43 and 44 at Ocean Dock. The new terminal, known as Ocean Terminal, was built in Art Deco style, and was opened by the prime minister, Clement Atlee, on 31st July 1950. ABP retain the original architects' drawings, and copies of those relevant to building 7 are reproduced in appendix 2, with permission. The plans were drawn by the Railway Executive's Docks Engineer's Department (Southern Region). They were produced by DE Corres in January and February 1950. The electricity transformer house (building 7) was located on

the east side of Ocean Road, known as Cunard White Star Road in 1950, and was linked to the main terminal building to the west by a bridge spanning the road and the railway which still runs to the west of the road.

A search was made of the Portcities website, and two relevant images, copyright to ABP, were found. They are reproduced here with permission. Neither clearly shows the electricity transformer house as built. The first image was of an architect's model (figure 2). Some of the detail of the transformer house is not as built, but it does show how the building related to the main terminal.

Figure 2. The architect's model, looking south-west.

The second photograph dates from the 1950s (figure 3). It mainly shows the Terminal building, but the transformer house is indistinctly visible at middle right. No detail of the building can be made out, but it does show the bridge spanning the road and railway.

Figure 3. The Ocean Terminal looking north.

The need for the Terminal declined with the growth of air travel in the 1960s. Moreover a new terminal, the QEII Cruise Terminal, was opened at berth 38/39 in 1966, though principally serving the Cunard Line. By the early 1980s the Ocean Terminal had become redundant, and the main building was demolished in 1983. The electricity transformer house was left standing as the electrical plant was still in use.

7. Map regression.

The following is not an exhaustive map regression of all maps showing the area, but are merely intended to provide an overview of the main development of the Eastern Docks. The site of the electricity transformer house is shown on the maps as a red outline.

7.1. The Royal Engineers' map of 1846.

The first detailed map of Southampton was the Royal Engineers' map of 1846 (figure 4). It shows the present site as being mudflats at the confluence of the rivers Itchen and Test.

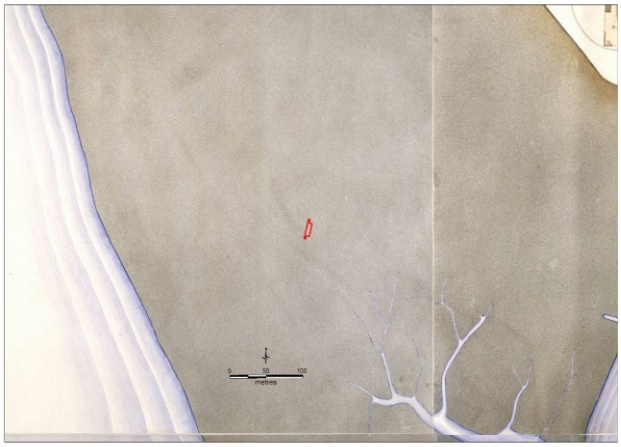

Figure 4. Extract from the Royal Engineers' map of 1846.

7.2. The 1896 Ordnance Survey map.

The 1896 Ordnance Survey map (figure 5) shows the initial phase of development of the mudflats as completed by 1851. Two piers have been formed around the Empress Dock to the east of the present site. However, only the eastern side of the western pier, upon which the Ocean Terminal was to be built. The site of the electricity transformer house is on the edge of the quay.

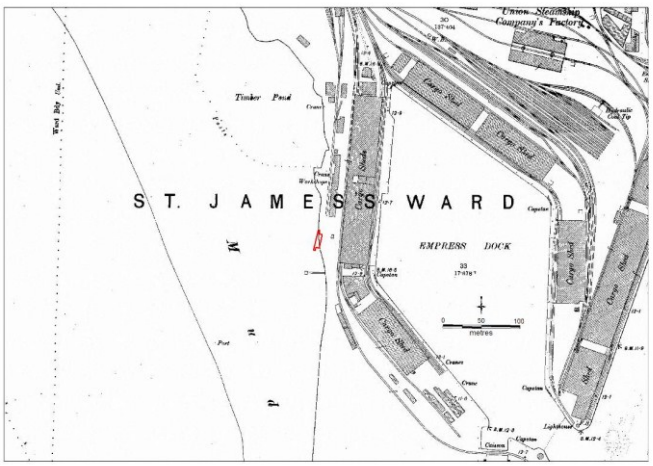

Figure 5. Extract from the 1896 Ordnance Survey map.

7.3. The 1909 Ordnance Survey map.

The 1909 Ordnance Survey map (figure 6) shows the western extension of the western pier of 1851 under construction with what must have been a temporary sea wall on the southern edge of the works. The area to the west of the pier is labelled “NEW DEEP WATER DOCK (in course of construction). This later came to be called Ocean Dock. A railway has been laid to the east of the site of the electricity transformer house.

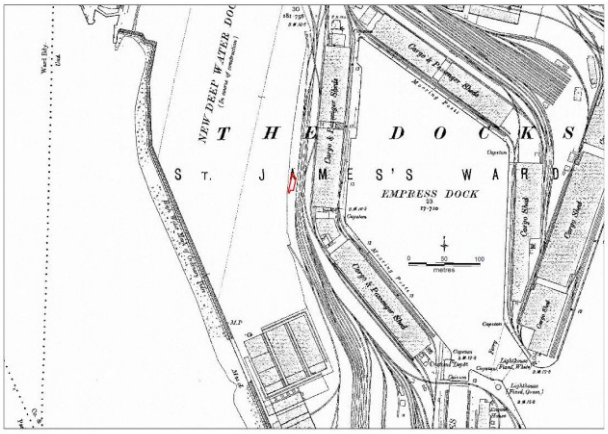

Figure 6. Extract from the 1909 Ordnance Survey map.

7.4. The 1933 Ordnance Survey map.

The 1933 Ordnance Survey map (figure 7) shows the Ocean Dock completed. Its east side is flanked by two “cargo and passenger sheds.” These would be the sheds at berths 43 and 44 that were damaged in the War. A single track spur of the railway has been laid out to the east of the sheds.

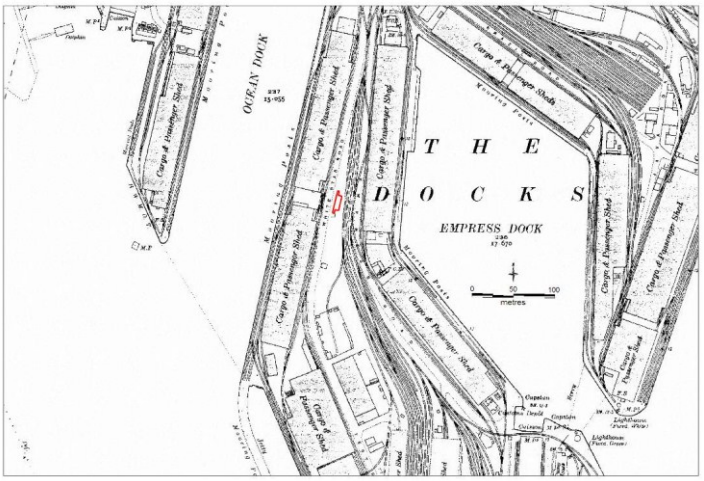

Figure 7. Extract from the 1933 Ordnance Survey map.

7.5. The 1950 Ordnance Survey map.

The 1950 Ordnance Survey map (figure 8) shows both the Ocean Terminal and the electricity transformer house as being built. The latter is shown sandwiched between to railway lines. The bridge is shown crossing "White Star Road" and the western railway spur, which has now been doubled.

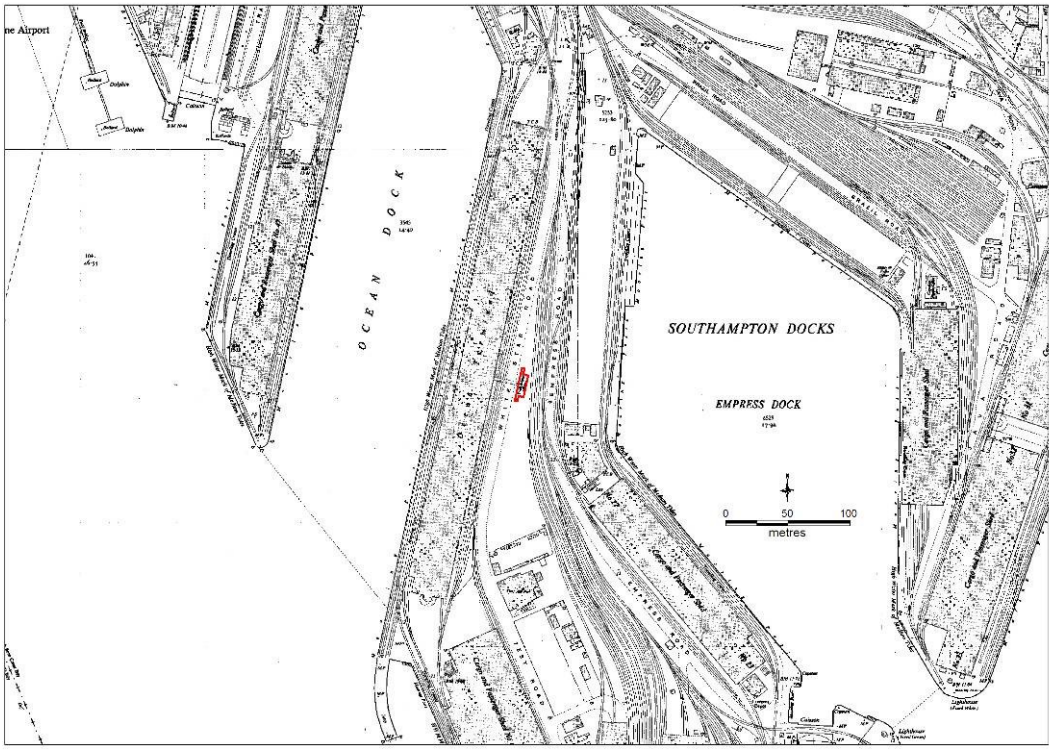

Figure 8. Extract from the 1950 Ordnance Survey map.

7.6. The 2012 Ordnance Survey map.

The 2012 Ordnance survey map (figure 1) shows the site of Ocean Terminal as open ground. The road has been renamed Ocean Road. The railway is not clearly shown, though a double track to the west of Ocean Road was present at the time of the survey. The electricity transformer house is shown standing in isolation.

8. Description of the building

8.1. Introduction.

The building was constructed in reinforced concrete to two stories. Its long access was aligned roughly north to south. The ground floor housed the electricity transformer equipment. They were flanked by public stairwells to the north and south that lead to the first floor sloping bridge to the Terminal building to the west. The bridge had already been demolished at an unknown date, but certainly no later than 1983 when the terminal building was demolished. Two toilets opened off the stairwells at first floor level.

8.2. The exterior.

The building was constructed in a basic Art Deco style to compliment the main terminal to the west (figure 3). The stairwells were constructed of reinforced concrete. The core of the walls to the main building were not exposed, so it is not known whether or not they also had reinforced cores. The 1950 first floor plan (figure 63) suggests not as the walls there were annotated as “4” thick concrete blocks” with a cavity to the outer cladding (see below). The exposed internal faces of the walls were formed of concrete blocks that measured 1ft $4^{1}/_{2}$in by $8^{1}/_{2}$in (420mm by 210mm). The outer faces were clad in concrete slabs that measured 2ft 6in by 2ft (750mm by 605mm).

The west elevation formed the main frontage of the building (figures 9 to 14 and 61). It had three steel double doors on the ground floor. The central door was wider than those on either side, and was flanked by full height pilasters. The central door had a large, narrow, rectangular mullioned window, flanked by circular “porthole” windows above the north and south doors.

The stairwells were set back slightly from the main, central, façade. They had open entrances, protected by steel gates, at their far ends. The stairwell structures rose up from these entrances and were surmounted by continuous, mullioned, window lights below the flat roofs.

The centre of the main façade was surmounted by a superstructure with a suppressed arched head. This formed the east end of the former bridge. Its former opening had been blocked up with a concrete wall.

The north and south elevations were mirror images of each other (figures 15 to 18). They were multi-faceted, following the right angled bend of the staircase. The north to south aligned bases of the staircases projected out from their west ends. The external faces of the stair rises were capped with continuous, mullioned, windows like those on their west elevations. Single leaf wooden plank doors to the service rooms 4 and 5 were located below the eastern return of the stairs, and tripartite, concrete faced, windows lit the toilet rooms 11 and 12 above the change of angle of the staircases. The bridge head (room 8) and its connecting corridor (rooms 7 and 9) rose above the end elevations on a receded plain. The end walls of the corridor were plain, but the bridge head rose up, following the rise of its internal staircase. This was lit by the same type of continuous, mullioned, windows as on the entrance stair wells.

The east elevation (figures 17, 18 and 61) had a central core that rose to two stories. At ground floor level it had three pairs of windows, separated by two brushed concrete panels, all set in a projecting surround of rough concrete. They lit the transformer rooms 1 to 3. There were five porthole windows at first floor level lighting the corridor rooms 7 to 9. It had a deeply overhanging flat roof. The bridge head staircase rose above the first floor to the west.

The flanking stairwells formed mirror images of each other to either side of the core. They presented blank walls, following the rise of the stairs, below the continuous bands of windows. The inner ends of the corridor landings (rooms 7 and 9) had a further raised portion above the top of the stairs to accommodate their extra height. These raised sections also had deeply overhanging flat roofs whose inner ends were supported on projecting pilasters which tapered inwards towards the ground.

8.3. The ground floor rooms.

Most of the central core of the ground floor was occupied by three rooms (1 to 3 – figures 61 and 62) that housed the transformer equipment. Each was accessed by double steel doors in the western wall. They were divided internally by brick walls. The bricks measured $8^{3}/_{4}$in by $4^{1}/_{4}$in by $2^{3}/_{4}$in (220mm by 107mm by 66mm) laid in English bond. A through corridor was present linking all three rooms at the east end, accessed by doorways, though there was no evidence that there had ever been doors in the openings. Cable trenches were present below the floor adjacent to the outer walls and the east end of the internal walls (figures 22 and 62). They were capped with wooden planks, the rest of the floor being of concrete. The ceilings were of concrete, those in rooms 1 and 3 being of long concrete beams, mostly aligned north to south, though aligned east to west over the eastern corridor. The ceiling of room 2 was formed of concrete blocks (figure 30) with a concrete girder beam below the base of the stairs. A RSJ gave further support to the rise of the bridge stairs to its west.

The transformers were housed in the central room (2) which was somewhat wider than the flanking rooms and was much taller, being open to the underside of the bridge stairs. Three transformer units survived in the room. They were built by the English Electric Company of London, and although the date of manufacture was not given, they were probably original. There were two 500 kV.A three phase ON transformer units (figure 26) on the north side, and a smaller 250 kV.A unit to the south (figure 28). All three had their maker's plaques still attached. Those on the two 500 kV.A units were identical apart from their serial numbers (figure 27), whilst that on the 250 kV.A unit was different (figure 29). Two north to south aligned RSJs were present below the ceiling level. They were labelled on the 1950 plan (figure 62) as being "lifting beams" and were probably installed to assist with the installation of the transformers.

The flanking rooms originally housed the switchgear, though no original equipment survived and both rooms were plain. The southern room (1) was

labelled as “LT switchgear” (figures 19 to 21), whilst the northern room (3) was labelled as “EHT switchgear” (figures 31 and 32).

Small rooms, only accessed from the exterior, were placed below the eastern returns of the staircases. The southern room (4 – figure 33)) was labelled “tele test house”. It housed fairly modern telephone switch gear at the time of the survey. A small metal hatch in the external face of the south wall, just to the west of the door, protected a switch box (figures 34 and 35). The northern room (5 – figure 36) was labelled in 1950 as “store” and was empty at the time of the survey. Both rooms had pairs of iron pipes against their east walls. One appeared to provide drainage for the first floor toilets, whilst the other carried rain run-off from the roofs.

8.4. The stairwells.

The two sets of stairwells formed mirror images of each other. Only the southern end (rooms 6 to 8) will be described here as there was no substantial difference to the northern end (rooms 9 and 10 – see figures 46 to 48). The stairwell (room 6) was entered from the west at its north end. A steel gate gave access to Ocean Road. A straight flight of stairs rose to the north giving access to a half landing (figures 37, 38 and 63). A second straight flight rose to the east of the half landing (figures 39 and 40) to give access to a second landing in the south-east corner of the building (room 7 – figures 41 and 42). The door to the ladies’ toilet (room 11) opened off the west side of this landing. A third flight of stairs rose to the north giving access to the bridge landing (room 8).

The bridge landing formed a corridor against the east wall of the central core of the building, and was lit by the porthole windows in the east wall (figure 45). A steep flight of stairs rose to the west of the corridor to the bridge head (figure 43). The entrance to the bridge had been blocked up with a concrete wall. The floor to the west of the top of the stairs had been removed exposing the base of the stair structure, showing that there was a void between the underside of the stairs and the top of the ceiling to room 2 (figure 44). The

upper face of the room 2 ceiling was about 5ft 3in (1.6m) below the bridge threshold.

8.5. The first floor toilets.

A toilet was located on either side of the bridge staircase at first floor level (rooms 11 and 12 – figure 63). The southern room (11 – figures 49 to 52) formed the ladies' toilet. It opened off the second stair landing (room 7), and had an entrance lobby protecting the main part of the toilet from the view of passers-by on the stairwell. Its walls were clad with white glazed ceramic tiles to a height of about 6ft 6in (2m), above which was exposed painted wall plaster. It had a row of three hand basins against the north wall, and three toilet cubicles against the south wall. The whole was lit by a porthole window in the west wall. A gas-fired incinerator with an asbestos flue venting out of the ceiling was attached to the west end of the north wall (figure 53). It was manufactured by Sugg of Westminster. A label attached to it stated that it must by operated using natural gas, suggesting it was installed around the time when the Southampton gas supply was converted to natural gas in about 1977.

The northern room (12 – figures 54 to 58) formed the gents' toilet. It opened off the northern second stair landing (room 9). It also had an entrance lobby. A small room was formed out of its east end, to the south of the lobby, labelled in 1950 as "cleaners' store." There was a row of four urinals against the southern wall, and two toilet cubicles against the northern wall. The gents' toilet had only one hand basin, against the west wall below the porthole window.

9. Conclusions

The building was purpose-built to serve two functions connected with the Ocean Terminal of 1950. Its ground floor provided an electricity transformer house. Three of the original transformers were almost certainly still in place, though other original fixtures had been removed or replaced. It also provided

a room for the telephone switchgear in room 4. The actual equipment had almost certainly been renewed at some time.

The second main use of the building was to provide public access to the Ocean Terminal that was formerly located to the west of the road and railway. The access was gained by way of two staircases opening off Ocean Road and rising to a bridge across the road and railway to the Terminal. It was probably intended to allow safe access for passengers arriving by road, as the boat trains would have been served by a platform adjacent to the east wall of the actual Terminal building (see figure 3). Public toilets were provided opening off these stairs.

The building was finished to quite a high visual standard in a style that would have appeared modern in 1950, but was still recognisable as being inspired by the pre-War Art Deco house style of the Southern Railway as exampled by the surviving up-platform station building at Southampton Central Station. The Terminal was deliberately designed to provide a favourable, modern appearance, to people entering the country, as reflected in Mr Atlee's speech at the opening ceremony where he said "*We're hoping to have many many visitors to this country. And first impressions are important. They'll say – Well we have been welcomed here – and they will realise something of what this country has been doing during these years.*" He was presumably referring to the period of reconstruction after the war, and as a recently nationalised industry the railway with its port subsidiary would be expected to play a role in expressing the government's commitment to reconstruction and modernisation.

Bibliography

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Temple Patterson, A, 1975: *A History of Southampton 1700 - 1914: vol iii. Setbacks and recoveries 1868 - 1914*. Southampton Records Series Vol XVIII.

Appendix 1. The survey photographs.

The following is a selection of the photographs taken as part of the present survey to show the main arrangement and appearance of the building. Photographs showing detail visible in these views or repetitive detail have not been included.

A1.1. Exterior.

Figure 9. West elevation looking east.

Figure 10. Gate to stairwell room 6 looking east.

Figure 11. Door to room 1 looking east.

Figure 12. Door to room 2 looking east.

Figure 13. Door to room 3 looking east.

Figure 14. Gate to stairwell room 10 looking east.

Figure 15. West end of south elevation looking north.

Figure 16. East end of the south elevation looking north-west.

Figure 17. East elevation looking north-west.

Figure 18. North and east elevations looking south-west.

A1.2. Ground floor rooms.

Figure 19. Room 1 looking east.

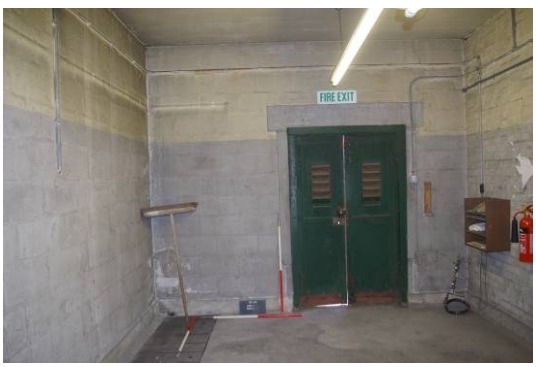

Figure 20. Room 1 looking west.

Figure 21. Doorway from room 1 to room 2 looking north.

Figure 22. Cable trench against east wall of room 1 looking east.

Figure 23. Room 2 looking east.

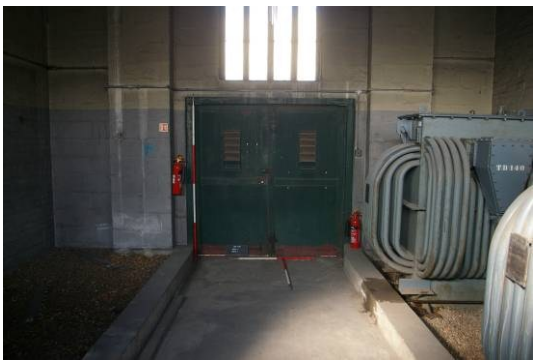

Figure 24. Room 2 looking west.

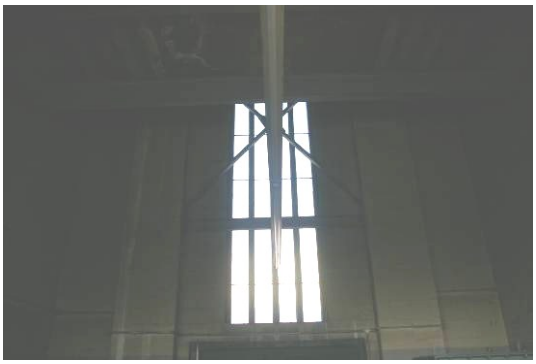

Figure 25. High level window in west wall of room 2 looking west.

Figure 26. Transformers on north side of room 2 looking north.

Figure 27. Maker's plaque on north-east transformer looking north.

Figure 28. Transformer on south side of room 2 looking south.

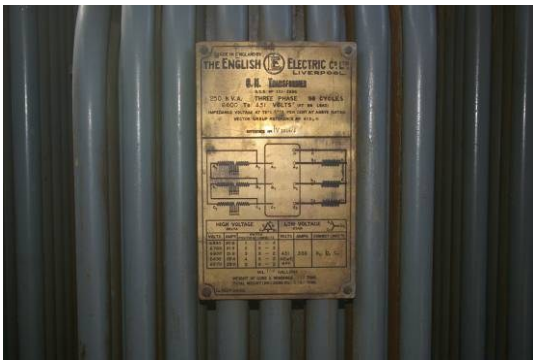

Figure 29. Maker's plaque on southern transformer looking south.

Figure 30. Room 2 ceiling looking east.

Figure 31. Room 3 looking east.

Figure 32. Room 3 looking west.

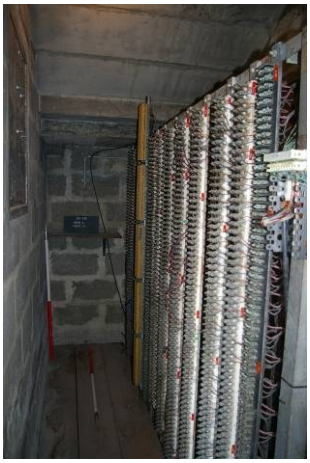

Figure 33. Room 4 looking west.

Figure 34. Hatch door to external switch box in south wall, looking north.

Figure 35. Interior of switch box looking north.

Figure 36. Room 5 looking east.

A1.3. The stairwells.

Figure 37. Lower flight of room 6 looking south.

Figure 38. Lower flight of room 6 looking north.

Figure 39. Upper flight of room 6 looking west.

Figure 40. Upper flight of room 6 looking east.

Figure 41. Room 7 looking south.

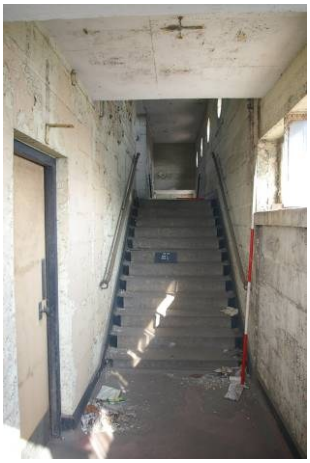

Figure 42. Room 7 looking north.

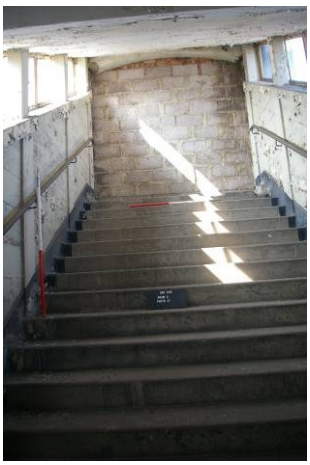

Figure 43. Room 8 looking west to site of bridge entrance.

Figure 44. Exposed structure below bridge entrance looking west.

Figure 45. Room 8 looking east.

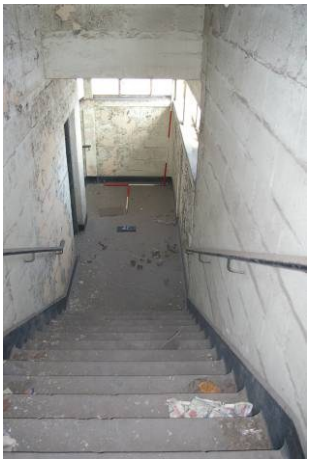

Figure 46. Room 9 looking north.

Figure 47. Top flight of room 10 looking east.

Figure 48. Lower flight of room 10 looking north.

A1.4. First floor toilets.

Figure 49. Lobby to room 11 looking south.

Figure 50. Room 11 looking west.

Figure 51. Room 11 looking east.

Figure 52. Toilet cubicles on south side of room 11 looking south.

Figure 53. Incinerator on north wall of room 11 looking north.

Figure 54. Lobby to room 12 looking west.

Figure 57. Urinals against the south wall of room 12 looking south-west.

Figure 55. Room 12 looking west.

Figure 58. Toilet cubicles against the north wall of room 12 looking north.

Figure 56. Room 12 looking east.

Appendix 2. Architect's drawings.

The following are the architect's drawings of 1950 as supplied by ABP who retain the copyright as successors to the Dock's Engineers Department. Figures 62 and 63 have been annotated in red by Southampton Archaeology with the survey room numbers.

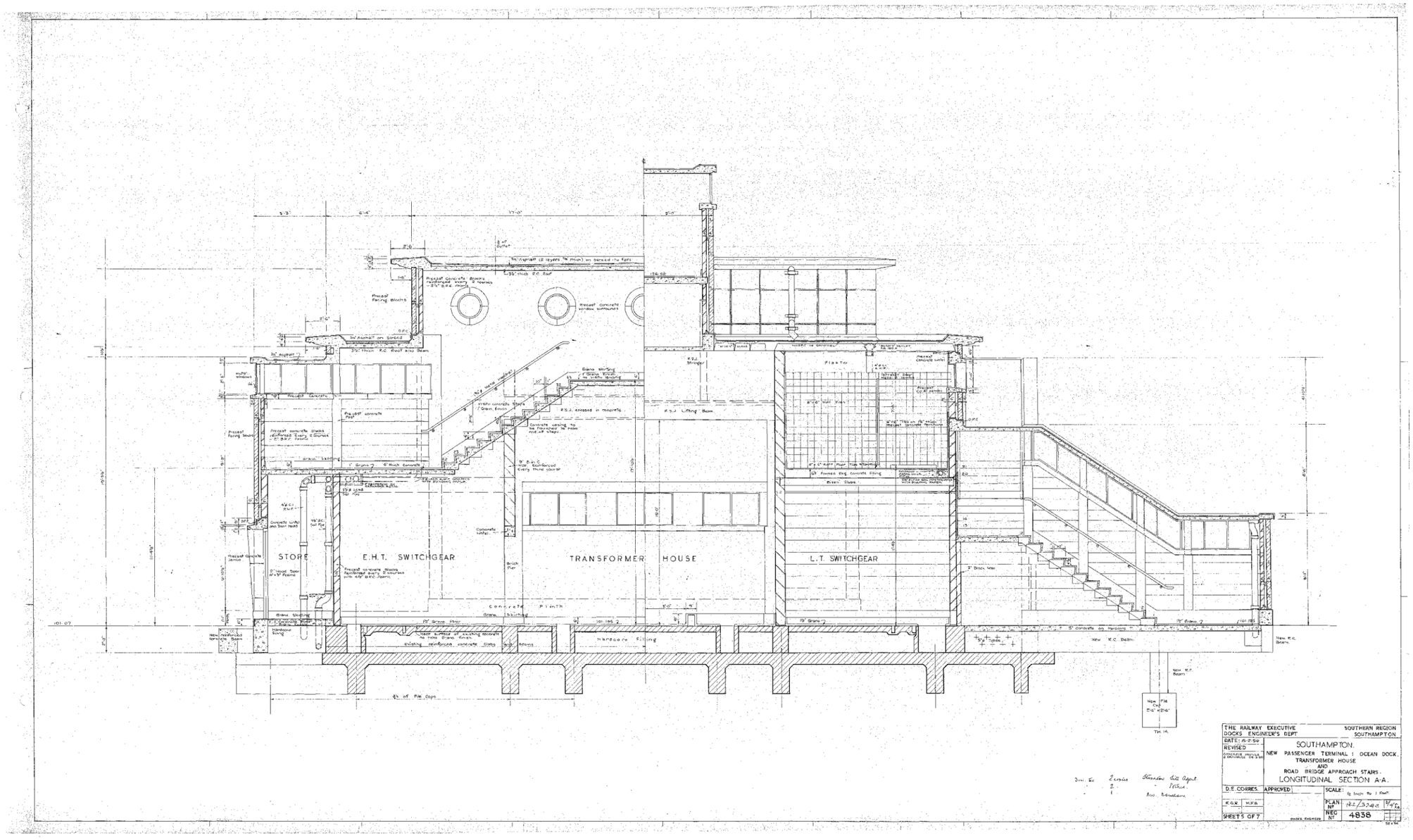

Figure 59. Long cross section A.

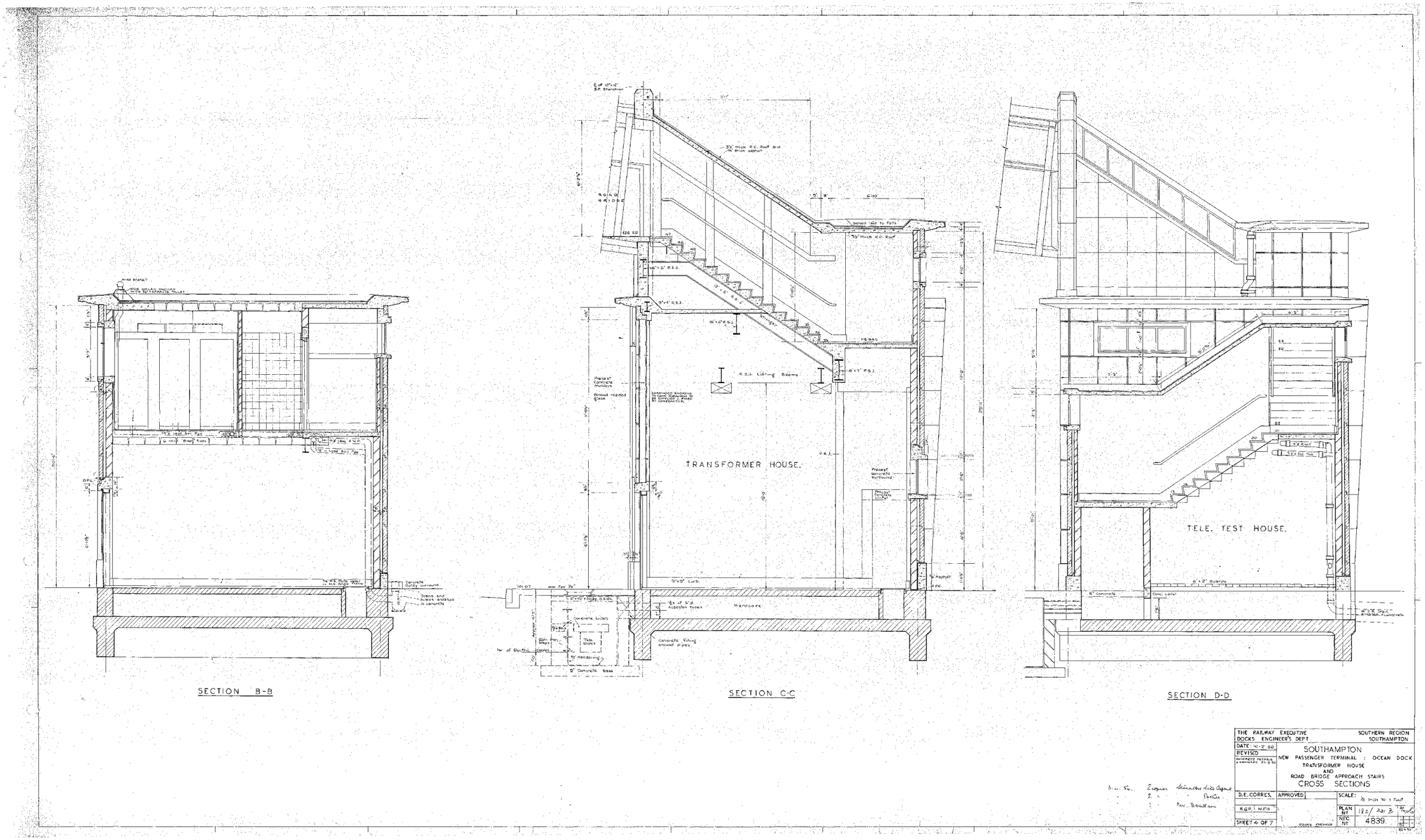

Figure 60. Cross sections B, C and D.

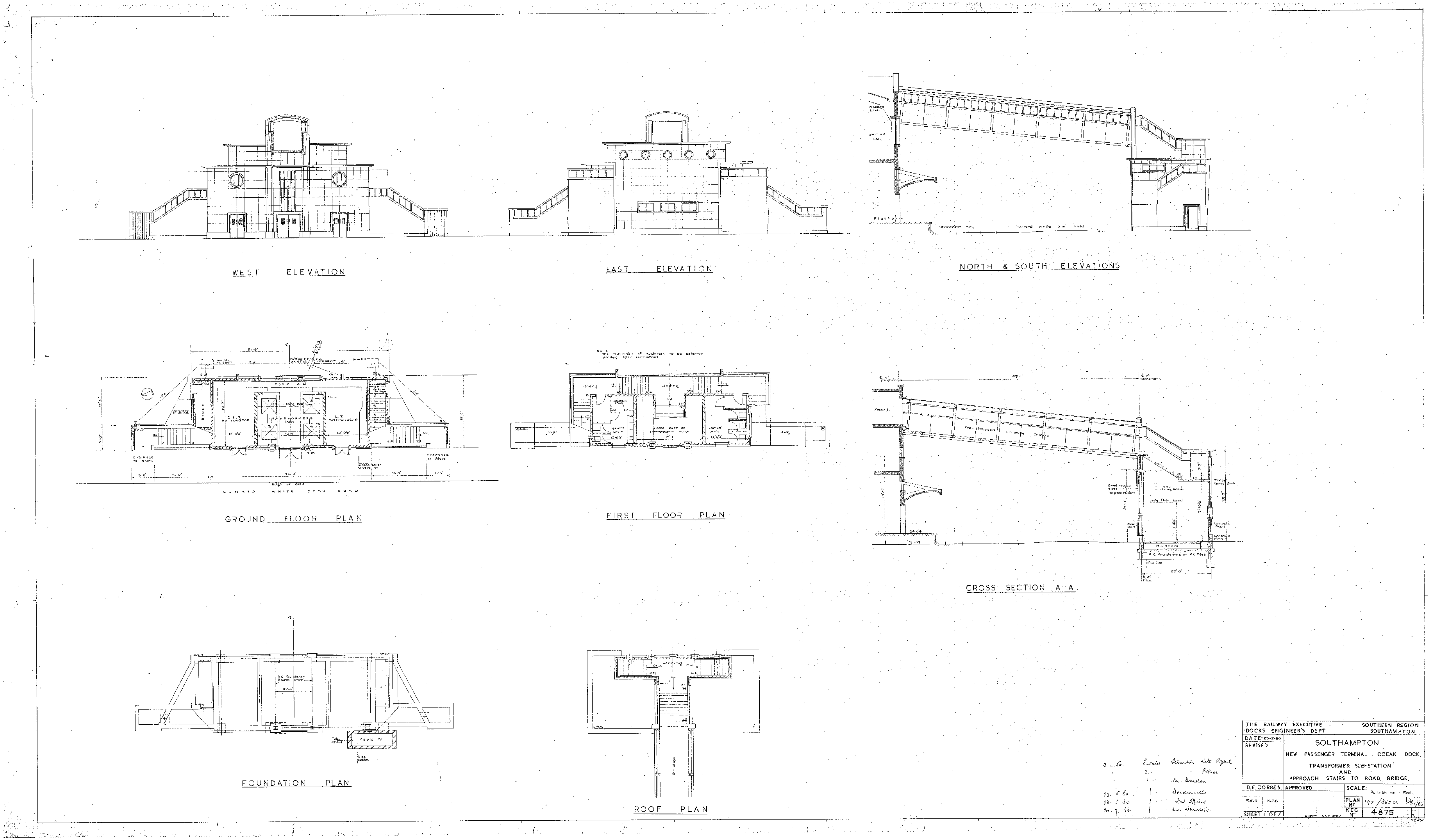

Figure 61. External elevations and floor plans.

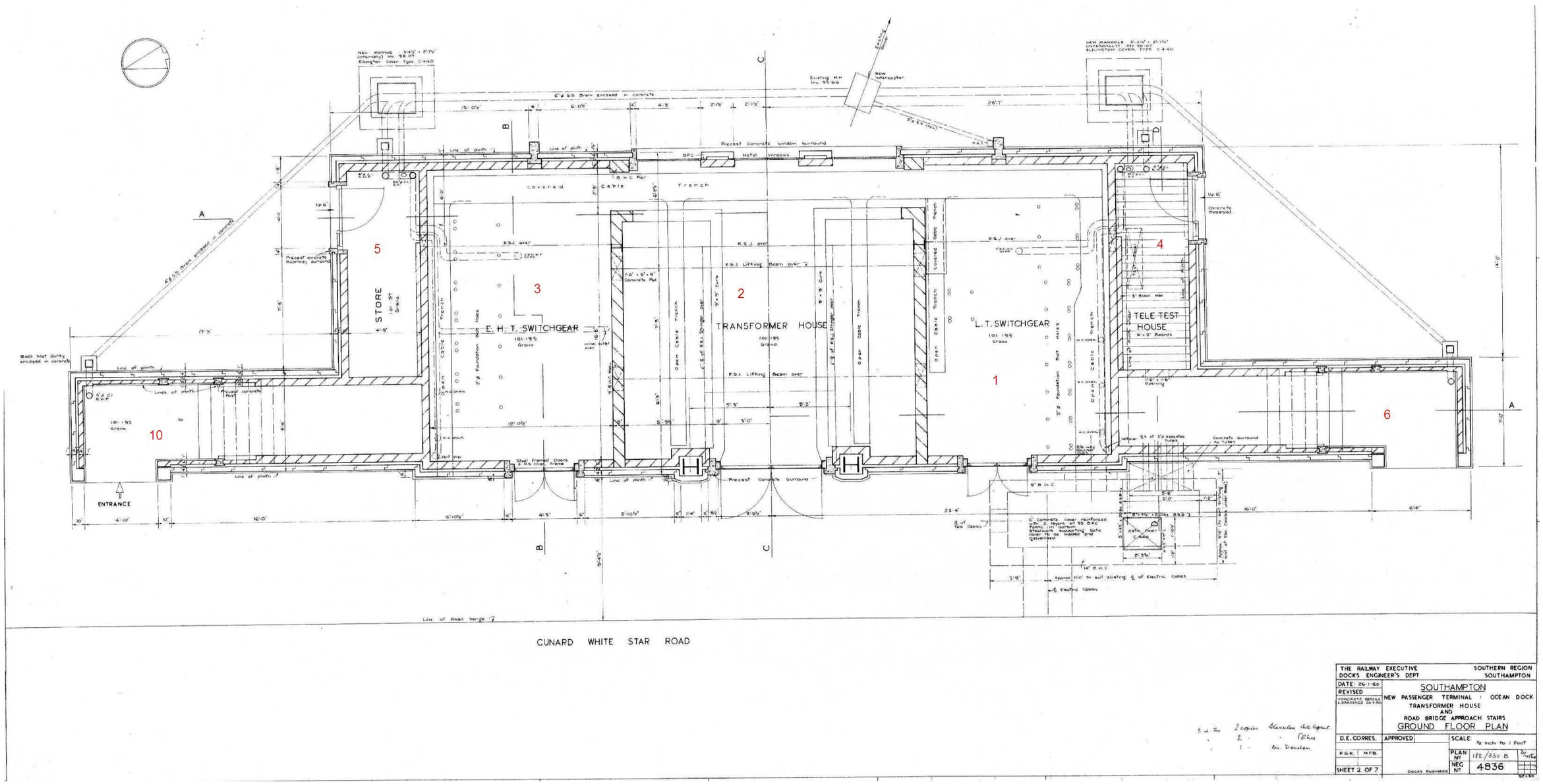

Figure 62. Ground floor plan.

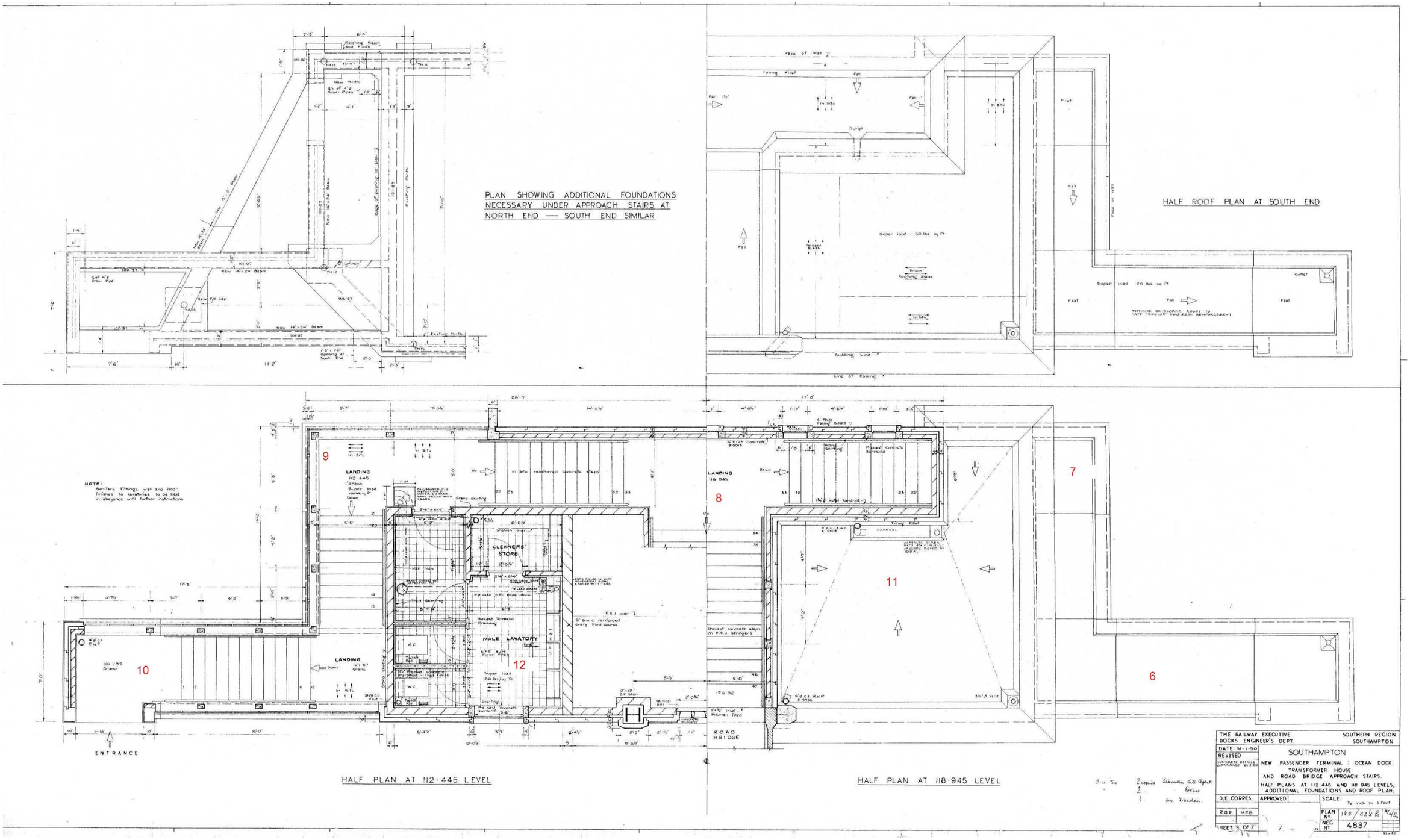

Figure 63. Ground floor and roof plans.